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CATALOG NO. SF-104

U. S. PATENT OFFICE
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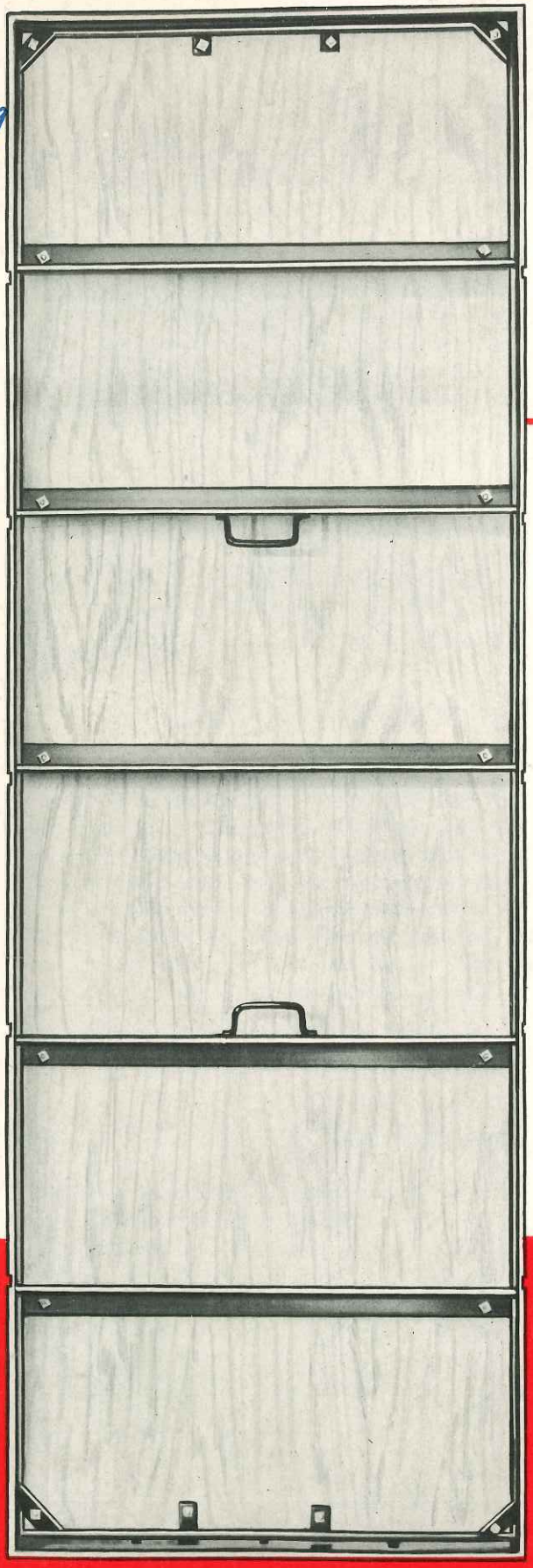


Symons

STEEL-PLY FORMS

New design incorporates rigidity and lightness with proven tie system

SYMONS CLAMP & MFG. CO.
4249 DIVERSEY AVENUE • CHICAGO 39, ILLINOIS

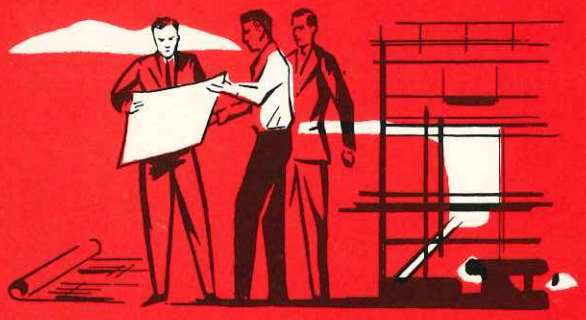
OTHER SYMONS PRODUCTS: Wood-PlyForms • Mag-Ply Forms • All-Mag Forms
Form Ties & Hardware • Safety Shores • Column Clamps • Bar Ties and Tie Chairs

Symons

free engineering and field service

ENGINEERING SERVICE

Symons experienced engineers' ability to tackle and analyze any job, *no matter how large or small,* is your assurance of efficient, money saving form erection. With your plans, our engineers will prepare a complete form layout, bill of materials, and make recommendations for the most efficient and cost saving method of forming.



FIELD SERVICE

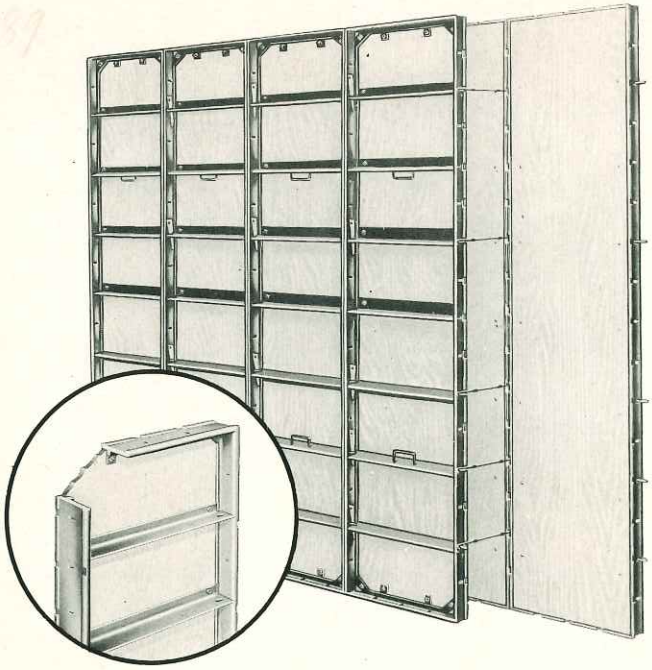
Your Symons Field Service Representative is a professional in every sense of the word . . . highly trained and experienced. He can show you and your men how to use Symons products efficiently so that you will save time, labor and materials. He is a sales engineer, ready and able to advise you on form erection, pouring and stripping methods. You can call on him to assist you on any forming problems you may have.

SALES SERVICE

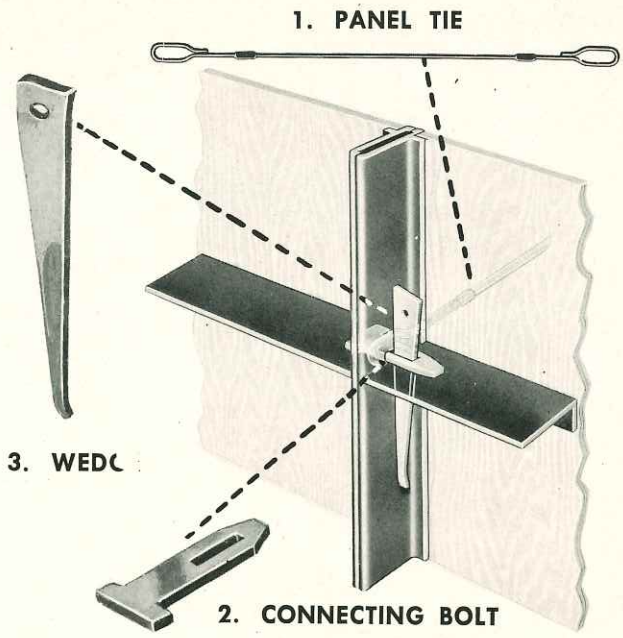
Symons ability to anticipate requirements, and have available products for prompt shipment when needed, is highly important in Symons Sales Service. Our products and representatives are strategically located throughout the United States, Canada, Cuba and Puerto Rico. Forward planning like this is one of the important reasons why you can always expect the best and most service from Symons.

steel frames will last indefinitely

Symons



Plywood edges are completely encased in steel frame.



Joining panels with bolt, tie and wedge is simple and easy.

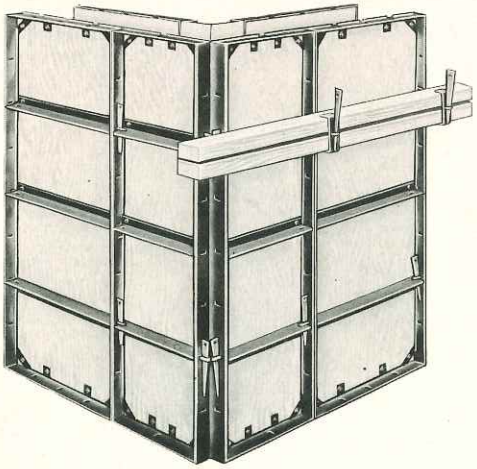
Symons new lightweight form has a rolled steel frame that completely encloses and protects the plastic plywood face. Width of the steel frame is only 2½″, compared to the 4⅜″ width of wood frame forms. Panels are 2′ wide in lengths of 4′, 6′, 7′ and 8′. Fillers are made in widths required—standard widths are 14″, 16″, 18″ and 20″.

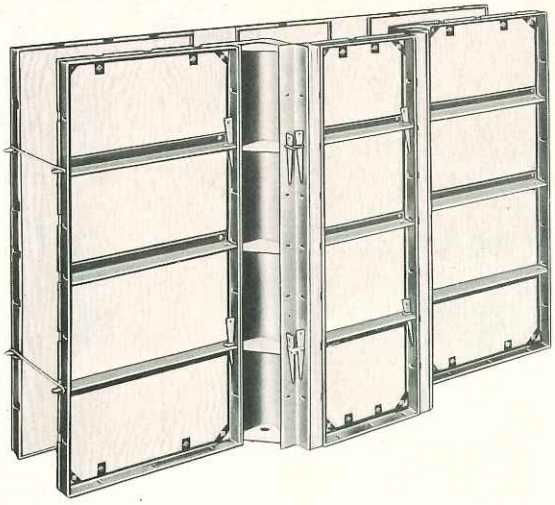
Average weight of a steel-ply form is five-pounds-per-square foot; slightly less than that of a wood form of comparable size. Handles are provided in the 6′, 7′ and 8′ sizes to simplify carrying the forms. The welded steel frames will last indefinitely and the plastic plywood face should be usable for more than 100 times. Plywood may then be easily reversed or replaced. The efficiency and adaptability of steel frame forms on circular and battered walls, as well as straight or cut up walls, has pleased many contractors.

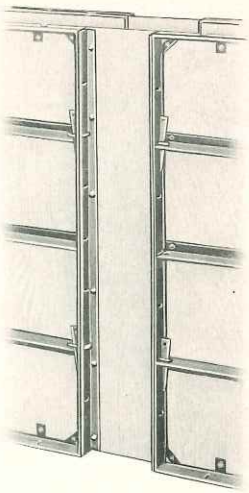
Work is cut to a minimum in the field, as the forms are furnished with all fillers that are required.
Steel-ply forms are available on a rental basis—rentals can be applied to the purchase price.

37,000 SQ. FT. STEEL-PLY FORMS USED ON AIR FORCE ACADEMY

Long Construction Company used 37,000 square feet of Steel-Ply forms on the new Air Force Academy. The low bid was based on the rapid reuse of the forms. The forming involved some 10,000 lineal feet of retaining wall containing 24,000 cubic yards of concrete. The walls were battered and varied in height up to 32′. Approximately 600,000 square feet of forming went into the total job.







CORNERS

All corners require both an inside and outside corner piece. Outside corners are steel angles that lock adjoining forms together to make a 90° angle. Inside corners are 6" x 6". The forms adjacent to the outside corner are equal in width to the wall thickness plus 6". For example the corner forms for a 10" wall would be 16" fillers. To set-up the inside corner attach two panels to the inside corner piece passing the connecting bolts through the loops in the ties. Erection is continued toward the center of the wall.

PILASTERS

Illustrated is a pilaster 20" wide with a projection of 6" from the wall. Two inside corners totalling 12" and two outside corners were used. The face is formed by one 16" filler and two 2" fillers. The complete set-up on one side totals 32". On the opposite side two 8" fillers and one 16" were used.

For variations in width, different fillers can be used. Opposite filler set-ups must correspond to allow ties to pass directly across. When the pilaster projects more than 6" fillers of suitable width are inserted between the inside and outside corners. For projection less than 6", bulkheads of the required thickness are inserted in front of the pilaster face forms.

FILLERS

Symons prefabricated fillers are available from 1" through 20" in width and 4', 6', 7' and 8' high. Fillers 14" or more in width are constructed similar to standard panels. 4" to 12" fillers are made with a rigid steel frame without cross members. 1" and 2" ponderosa pine or fir fillers, exactly cut, drilled and dadoed are also available.

Fillers 12" in width or less can be built on the job by the use of filler angles and pieces of ⅝" plywood cut to the proper size. The plywood can be attached with bolts or split rivets.

Fillers 2" or less can also be cut, drilled and dadoed on the job from full 1" x 2½" or 2" x 2½" lumber.

10" Filler

Filler Angles Secured to Plywood

S WEDGE

S SHORT CONNECTING BOLT

S LONG CONNECTING BOLT

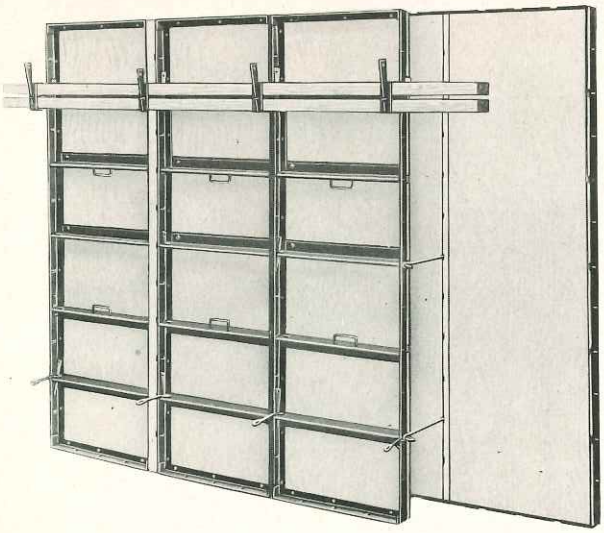
Used with 1" & 2" fillers

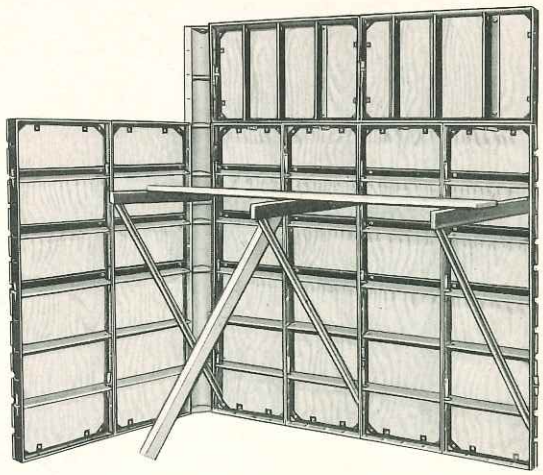
M PANEL TIE

M-panel ties are made of high carbon steel with standard break backs of 1" and are available for any wall thickness in ½" increments. Ties from 4" to 24" in length are carried in stock. When ordering ties, refer to the specific wall size required. Break back is accomplished by twisting the loop ½ turn after the concrete is fully set.

steel frame protects the plywood face

Symons





WALERS

Double 2" x 4" walers are used on one side at the top for alignment. As a safety measure on heavy pressure jobs, walers should also be placed on both sides of the forms one foot up from the bottom. Where forms are set above each other as for a 16 ft. wall, walers should also be placed at joint to insure neat alignment. The waler tie is threaded on the connecting bolt when the panels are joined. The waler plate holds the two 2 x 4 waler members, eliminating the need for a pre-assembled waler. The forms are brought into perfect alignment by driving a wedge through the opposite eye of the waler tie. The waler plate also provides a hard surface against the drive of the wedge. Walers are not put up, however, until one side is erected.

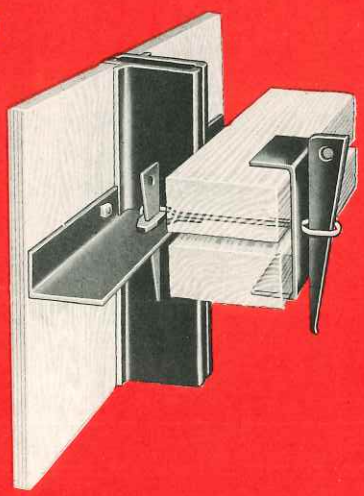
BRACING AND SCAFFOLDING

The Symons Steel Scaffold Bracket is a light weight compact unit that can be secured to Symons Forms with Standard Form Hardware. The steel scaffold bracket with the attached hand rail bar is completely collapsible to simplify handling and moving from job to job. These sturdy brackets will easily accommodate 3—2 x 10's for the scaffolding and the bars will support a 2 x 4 handrail at a height of approximately 3' above the platform. When handrails are not required the support bars may be pivoted down flush with the horizontal member of the bracket.

2' x 4' braces may be secured to the forms by means of a brace plate bolted to the frame and secured by a wedge through the connecting bolts. (See below.)

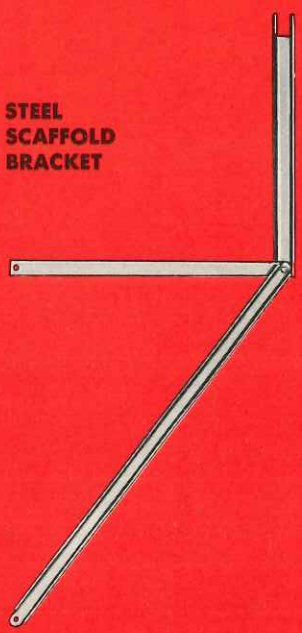
WALER TIE

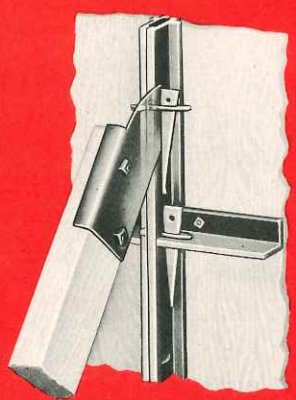
WALER PLATE



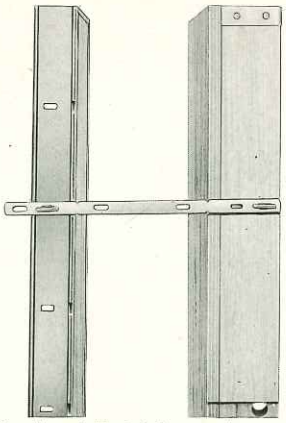
WALER ASSEMBLY

STEEL SCAFFOLD BRACKET





5 BRACE PLATE FASTENED WITH FORM HARDWARE

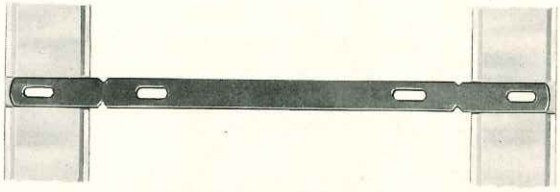


Wood and Metal Frame Forms Used In Combination With Duo-Tie

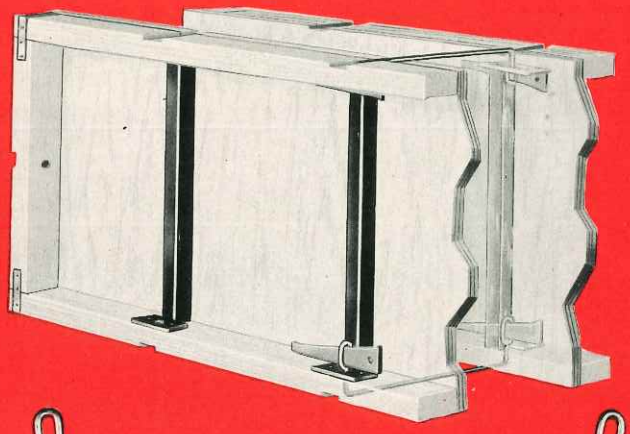
SYMONS NEW DUO-TIE

Symons new duo-tie can be installed quickly and efficiently from the outside of a form. It's flat surface and slots create a solid bond with the concrete preventing any loosening of the tie when stripping the forms from "green" walls. The duo-tie fits snugly into the tie slot eliminating grout leakage. The exact wall size has been stamped on each tie to avoid error. It is possible with the duo-tie to use wood and metal frame forms opposite each other. Contractors can use both types of forms interchangeably and the cost of coverting from one type of form to another is minimized.

The Symons S-M flat-tie is specially designed for use with Symons metal frame forms. Since the width of metal frame forms are only 2½", the S-M flat-tie is somewhat shorter than the duo-tie. However, like the duo-tie, the S-M flat-tie fits snugly into the tie slot and when necessary it is quickly installed from outside of the forms. In stripping, the S-M flat-tie is easily broken with two blows of a hammer.



S-M Flat-Tie Used With Metal Frame Forms

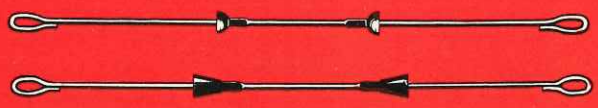


WOOD BASE TIE

METAL BASE TIE

Symons base ties are designed for grade beam and low wall construction. Available for use with wood and metal frame forms, the panels are used horizontally and only a wedge is needed to secure the base tie. The base tie can be used at the top or bottom of the form and with the base tie there is no break-off point. The top ties are above the concrete wall and can be reused. The bottom ties are below grade and not exposed.

WASHER TIES



Symons produces flat washer, cup washer and wood cone spreader ties. The standard spread ties go through ¾" plywood, 2 x 4 stud and 2 x 4 waler to anchor on tie holder, waler plate or Z tie holder. Special sizes available.

SPACING CHART (when washer ties are used).

At 50° TEMPERATURE				FOR ¾" Sheathing 2 x 4 Studs, Double 2 x 4 Wales	At 70° TEMPERATURE			
2'	3'	4'	5'	Rate of Pour (Vertical Feet per Hour)	2'	3'	4'	5'
22"	20"	18"	16"	Stud Spacing	24"	22"	20"	18"
30"	28"	26"	25"	Wall Spacing	33"	30"	29"	28"
32"	28"	24"	20"	Tie Spacing	36"	33"	28"	24"

NOTE: When concrete is mechanically vibrated, reduce spacing approximately 15%.

shores—column clamps—other products

Symons

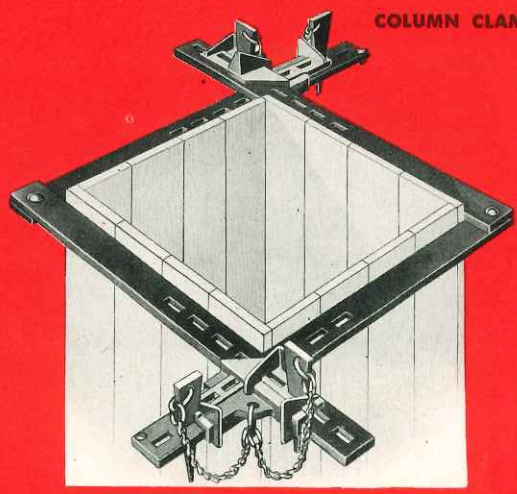
SYMONS SAFETY SHORE

EXTENSION

TEE HEAD

METAL SCAB

TIE CHAIR



COLUMN CLAMP

BAR TIE

SAFETY SHORES

advantages Symons Safety Shore is a powerful jack working on a steel T iron firmly secured within a built-up wood channel. Although very light, it has a load capacity up to 6,000 pounds and one man can lift 1,500 pounds. Positive action operated by a simple bar, the jack is micro-adjustable, and has a safety wedge for positive lock. Each shore has an extendible metal scab in the head which may be raised for nailing to stringers.

extensions Extensions for the Symons Safety Shore are stocked in 2 ft., 4 ft., 6 ft., and 8 ft. lengths. The extension consists of a 4 x 4 with a piece of 1¼ in. pipe securely bolted at one end. Easily attached "T" heads and "L" heads are available.

standard size shores

Shore Length	Length Telescoped	Length Extended	Weight
4 ft.	4 ft., 6 in.	7 ft., 6 in.	40 lbs.
6 ft.	6 ft., 6 in.	11 ft., 6 in.	48 lbs.
7 ft.	7 ft , 6 in.	13 ft.	54 lbs.
8 ft.	8 ft., 6 in.	15 ft.	60 lbs.

Ask for Clamp and Shore Catalog

COLUMN CLAMPS

Symons Column Clamps are quickest to apply and to remove. They automatically square the column, the malleable brackets being set at 90° angles. Driving home the wedges, which are chained to the brackets, pulls the clamp tight and forces the bars to form right angles. A rivet prevents the bracket from slipping off.

The bars of Symons Column Clamps are of high strength chrome manganese steel with sharp, clean-cut, punched holes. Continuous adjustment is provided by having wedge slots in the bracket closer together than the slots in the bars.

No tools other than a hammer are required to apply Symons Column Clamps. There are no detachable parts on the two units, which are exactly alike. Standard size Column Clamps are 36 in., 48 in., and 60 in. Special sizes up to 84 in. are reinforced for extra strength.

BAR TIES and TIE CHAIRS

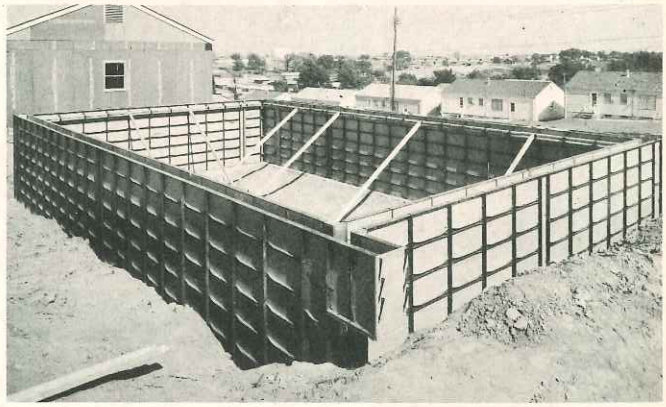
Symons Bar Tie quickly ties reinforcing bars together for wall construction. Bar ties come in four sizes, according to the combined diameter of the two intersecting bars. Symons Tie Chair, made of high carbon spring wire, locks the bars rigidly together, an inch above the slab. It is applied at about one fourth the labor cost of the ordinary method of tying with pliers. One size tie is suitable for from six to ten different combinations of bar sizes.

Symons

wall form construction

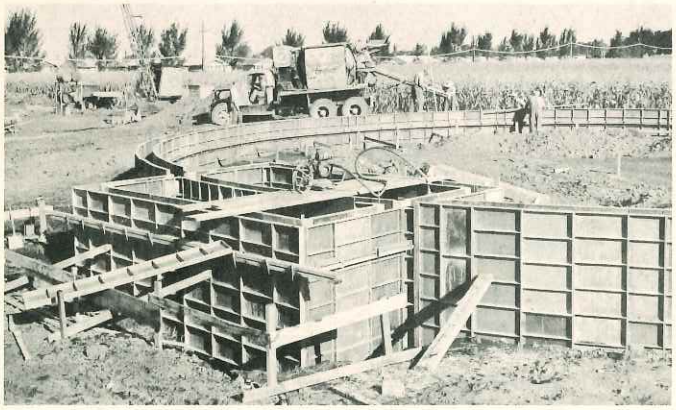
LIGHT CONSTRUCTION

Steel-ply forms do a fast and efficient job at low cost. They are adaptable to both residential and commercial construction.

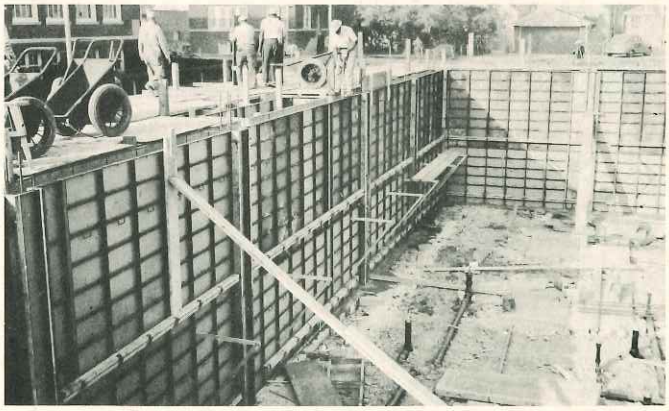


Speed, which is so essential in erecting and stripping, is achieved with Symons steel-ply forms. They are ideal for residential foundations.

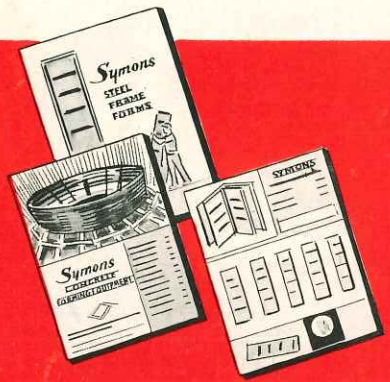
HEAVY CONSTRUCTION



Symons metal frame forms are readily adaptable for use on curved walls. True curves can be held and a smooth finish is achieved.



Strong and durable steel-ply forms do an efficient job on heavy as well as light construction. Waling and bracing is held to a minimum.



OTHER SYMONS CATALOGS
Sweet's Catalog Insert, General Catalog and Mag-Ply Catalog.
All are FREE upon request.

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